ANTIN
INFRASTRUCTURE PARTNERS

ENLIGHTENING THE FUTURE OF EUROPEAN INFRASTRUCTURE: THE CASE OF THE POWER AND TRANSPORTATION SECTORS

Second event of the five-year partnership

Stefano Gatti
Antin IP Associate Professor
of Infrastructure Finance

Ladies and Gentlemen, Dear Colleagues, Dear Students,

A warm welcome to everyone to the second year event of the renewed Antin IP-Bocconi University strategic partnership. I am very pleased to say that today, in this online event, we are counting more than **260** participants. In comparison, last year we had more than 250 and the trend of the past few years has been constantly rising. I like to say that digitalization, one of the megatrends that will influence our societies in the years to come, proves to be very effective in putting together an audience that has spread across the globe, and helps us reach big numbers, even for a niche asset class in the alternative assets space like infrastructure.

One year ago, when presenting the roadmap for the five-year research plan, I concentrated my analysis on the three dimensions of our activity for the second year:

1. The research track, with the preparation of two research reports
2. The observatory on Infrastructure Asset Pricing, now in its third edition
3. A teaching case study, the second in the series after the Antin IPO case successfully published in the International Case Centre Collection

In the first part of my introductory speech, I'll briefly summarize the results of the second year of the strategic partnership. Then, I'll present the outlook for infrastructure investing and financing after a year – 2023 – that has not been particularly rosy for any segment of the alternative investment space. Lastly, I'll conclude with some

reflections on the new themes that will influence infrastructure asset management in the years to come.

1. The results of the second year of the renewed partnership

Let me start with the research track.

In 2024, a relevant part of the efforts of the Bocconi team has been dedicated to analysing two key topics for the European economy: sustainable transport, with a focus on rail and air (thanks to Oliviero Baccelli and Juan Montero), and decarbonization and green energy transition (thanks to Matteo Di Castelnuovo and Daniela Valovicova).

My colleagues are going to present the key findings in more detail after this introductory session. However, let me just summarize some results that are also useful for the discussion session with my Antin IP colleagues that I'm going to be moderating during this event.

Number 1 – The Transportation Sector. In the last few years, EU policies have favoured the liberalization of the rail sector which until very recently operated in a monopolistic regime. Coupled with standardization and harmonization of technological specifications and with increased investments in high-speed trains and rail-air links, this liberalization is opening new opportunities for long term investors in infrastructure. The growing interconnection between rail and air transport generates a new "ecosystem" that sees the convergence of potential investments able to boost returns on the

"core" transportation services.[1] Just to name a few: installation of PV panels or optic cable connections in railway stations, the possibility to develop retail and commercial activities in high-traffic stations, the interoperability of services offered to passengers travelling by train and then by plane or vice versa. Last but not least, an augmented integration between rail and air transport, from a policymakers' point of view, is also beneficial in terms of ESG goals, given the reduction in the carbon footprint, which is made possible by cancelling short-haul flights in favour of high speed trains that pollute far less.[2]

Number 2 – Decarbonization and green energy transition. Consider these numbers. At present, China mines 70% of rare earth concentrates, processes 87% and refines 91%. Rare earth metals are a key component of the permanent magnets used for wind turbines and electric vehicles (EV) engines, among other things. In fact, China manufactures 45% of EVs globally and 23% of windfarms.[3] In a world free from any geopolitical tension, international specialization would be beneficial. However, we're now living in a completely changed scenario where globalization is being jeopardized and the dependency on one single sourcer or producer could be even more problematic than the dependency of Western economies on a cartel of oil producers in the fossil fuel era of the 20th century.

So, it comes as no surprise that the EU has recently passed two acts – the Critical Raw Material Act (CRMA) and the Net Zero Industry Act

[1] See Baccelli O. & J. Montero (2024), Sustainable Transport in the Post-pandemic World: Analysis of key policy options and resulting investment needs in high-speed railways sector in the EU. Implications for Infrastructure Investors, Baffi Research Centre – Bocconi University.

[2] See Georgiadis, P. (2024), Can Europe's Trains Compete with Low-cost Airlines? *Financial Times*, 7 March.

[3] See Dempsey H. (2024), The Rare Earths Mine becoming a Bellwether for US Minerals Policy, *Financial Times*, 21 April.

(NZIA) – that set ambitious goals to make the Union more independent from non-aligned countries and to strengthen energy security and the green transition. This scenario opens new opportunities for investors in the theme of energy transition along the "*green value chain.*"[4] But given the cost competitive advantage of Chinese manufacturers over Europeans, we need to carefully consider financial incentives that the EU must make available to allow mining and manufacturing of materials and parts that are needed for the energy green transition to take off. Without such incentives, you simply don't have the materials. With no reliable sources of materials, you can't credibly set up manufacturing.[5]

One common conclusion that the two papers offer readers is that infrastructure investing is becoming less driven by sectorial variables and more by "*investment themes.*" Successful investors and asset managers will have to consider the multiple interconnections between apparently disconnected investment proposals if they want to create extra value. This is also important because, as I'll explain later, competition for available assets is getting tough, with obvious consequences in terms of acquisition prices.

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Let me now turn to the key take-aways of the Observatory on infrastructure asset prices. This year our focus has been the impacts of demographic trends on the value of infrastructure investments over the long term. The results of the Observatory draw upon the estimation

[4] See Gara, A. & Darbyshire, M. (2023), Infrastructure Funds draw Billions of Dollars as Energy and Supply Chains Shift, *Financial Times*, 15 December.

[5] See Di Castelnuovo M. & D. Valovicova (2024), Decarbonization, Green Energy Transition and Impacts on Infrastructure Investments, Baffi Research Centre – Bocconi University.

of an ad-hoc asset pricing model that uncovers the long-term equilibrium relationships – essentially, the common stochastic trends- between key demographic variables, risk-factor prices and infrastructure prices. Through this model we first quantify how sensitive equilibrium prices are to shifts in demographic variables and ultimately offer forecast for infrastructure prices in light of demographic projections.

The demographic trends we analysed include factors such as population size—growing steadily but more slowly—ageing patterns across young, old, and working-age populations, dependency ratios, and levels of urbanisation. Importantly, the pace of these trends varies significantly across regions and even within Western Europe, creating a nuanced landscape for infrastructure pricing.

The study reveals many insights that we will explore in greater detail later in the session. However, looking specifically at Europe, the need for expanded infrastructure capacity is driving increased demand for infrastructure that can adapt to shifting age demographics and evolving lifestyles. Also, sustainable infrastructure is becoming a key focus, reflecting the need for greener and more resilient systems. Against this backdrop, a surge in demand is expected to exert upward pressure on infrastructure valuations, particularly in the transportation and power sectors, as investors recognize the strategic importance of upgrading and expanding these essential services to meet growing infrastructure needs. Accordingly, our model suggests that an older and increasingly urbanized European population will be a key driver of higher infrastructure valuations, as demographic shifts

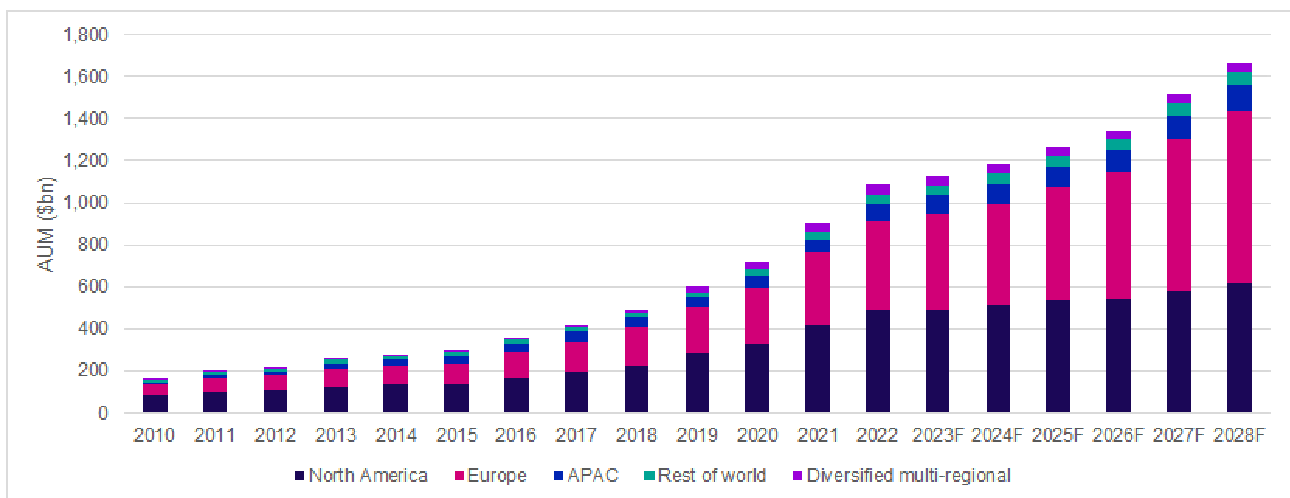
are closely linked to the underlying factors that shape infrastructure prices over the long term.

2. *The status of infrastructure investing in 2023 and the challenges ahead*

Let me now move to the second point of my speech.

At the end of 2023, the AuM for unlisted infrastructure assets (equity and debt) totalled about $1.1 trillion worldwide, slightly above the 2022 value. Of this amount, 41% was represented by European AuM. The progression of the asset class since 2010 has been remarkable: in 2010, the global AuM was $161 billion and European AuM was $53 billion.

Asset Under Management (AuM): Actual and Forecasted Volumes 2010-2028 ($ Bn)



What's more, forecasts by Preqin indicate that the asset class is going to grow to more than $1.6 trillion by 2028 at a Compounded Annual Growth Rate of 7.4%.[6] This CAGR is higher than the one expected for hedge funds (3.6%) and real estate (6.2%) but lower than for private

[6] Preqin (2024), The Future of Alternatives 2028.

equity (10%). The impressive 20.4% growth rate experienced by infrastructure from 2017 to 2022 partly explains the slowdown in growth expected for the next five years and indicates the progressive maturing of the asset class.

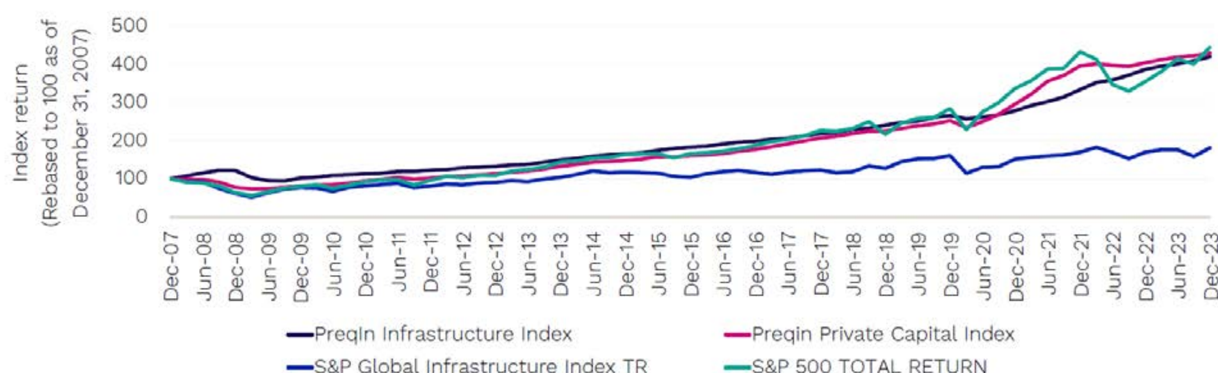
The year 2023 will be remembered as one of the worst ever for all alternative asset classes. Private equity fundraising dropped by 10%, real estate by 8% and infrastructure by 40% from 2022 values. However, we must keep in mind that these numbers should be read in perspective. In fact, while in 2023 all alternatives recorded a downturn compared to the peak values reached in 2022, the only asset class that registered continuous growth in fundraising year-on-year in 2022 was infrastructure.

The resiliency of infrastructure in the face of tough market conditions is further demonstrated by data on deals flow and index performance.

On the deals flow side, it's true that global infrastructure deal value fell to $226 billion at the end of 2023 with a drop of 45% compared to 2022. However, in 2023 this percentage was a much more severe -65% for real estate and -51% for private equity.

Furthermore, when looking at the performance of the asset class, the Preqin infrastructure index kept rising even in unfavourable market conditions, reaching 420 in December 2023 (+33 points from December 2022) and beating the performance, in the same period, of the Preqin Private Capital index (+26 points from December 2022). Inflation hedge and portfolio volatility reduction properties of the asset class played a key role in explaining this extra performance in a context of still high inflation and high interest rates.

Performance of infrastructure vs other private capital and public benchmarks 2007-2023



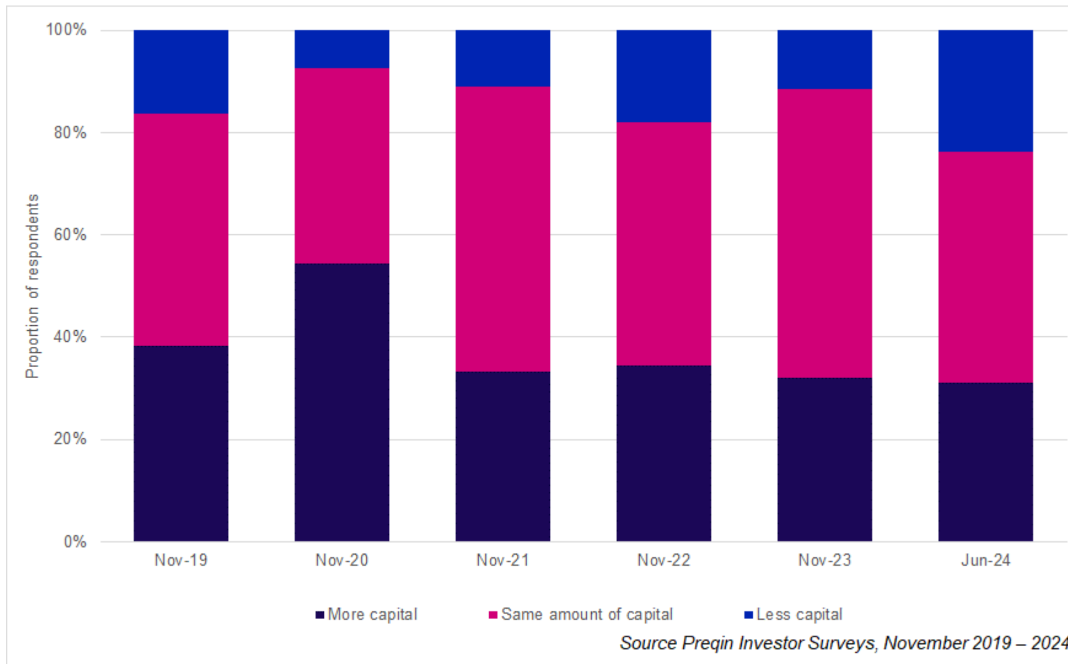
These stylized facts are the reason why many consider 2023 results as the product of the "perfect storm," a combination of high inflation, high interest rates, higher cost of commodities (particularly those necessary to the energy transition) and so only a temporary deviation from secular trends that haven't changed and that will reinforce the role of infrastructure in the years to come.[7]

Another clear signal of the transitory nature of the drop in fundraising and deal flow in infrastructure is the unchanged attitude of investors as far as allocating resources to the asset class. If we look at the declared intentions of infrastructure investors as recorded in the August 2024 Preqin survey, it is true that 24% are planning to commit less capital to infrastructure but it is equally true that 31% are committed to allocate more for the next 12 months. These intentions are also set for longer term investment horizons. In fact, 58% (up from

[7] See UBS (2024), *Infrastructure Outlook 2024*; CBRE (2024), *Global Next-Generation Infrastructure: A Core Plus Strategy for the Mid-Market;* and Martin, P., Whiteside, J., McKay, F. & Santhakumar, S. (2024), *Conflicts of interest: the cost of investing in the energy transition in a high interest-rate era*, Wood MacKenzie, April.

43% in November 2023) declare their wish to maintain the allocation and only 4% plan to invest less.[8] (This figure was 11% two years ago)

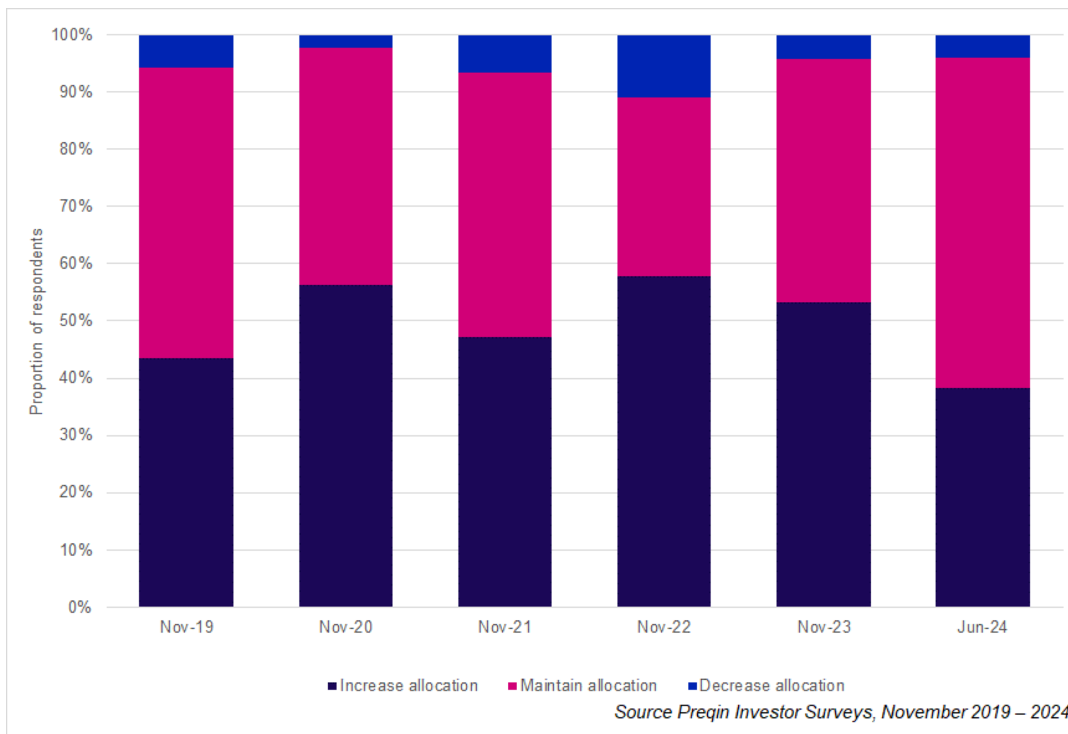
Short-term commitment plans (allocation plans for the next 12 months compared to the previous 12 months), 2019 – 2024



Source Preqin Investor Surveys, November 2019 – 2024

Investors' intentions for their infrastructure allocations over the longer term, 2019 – 2024

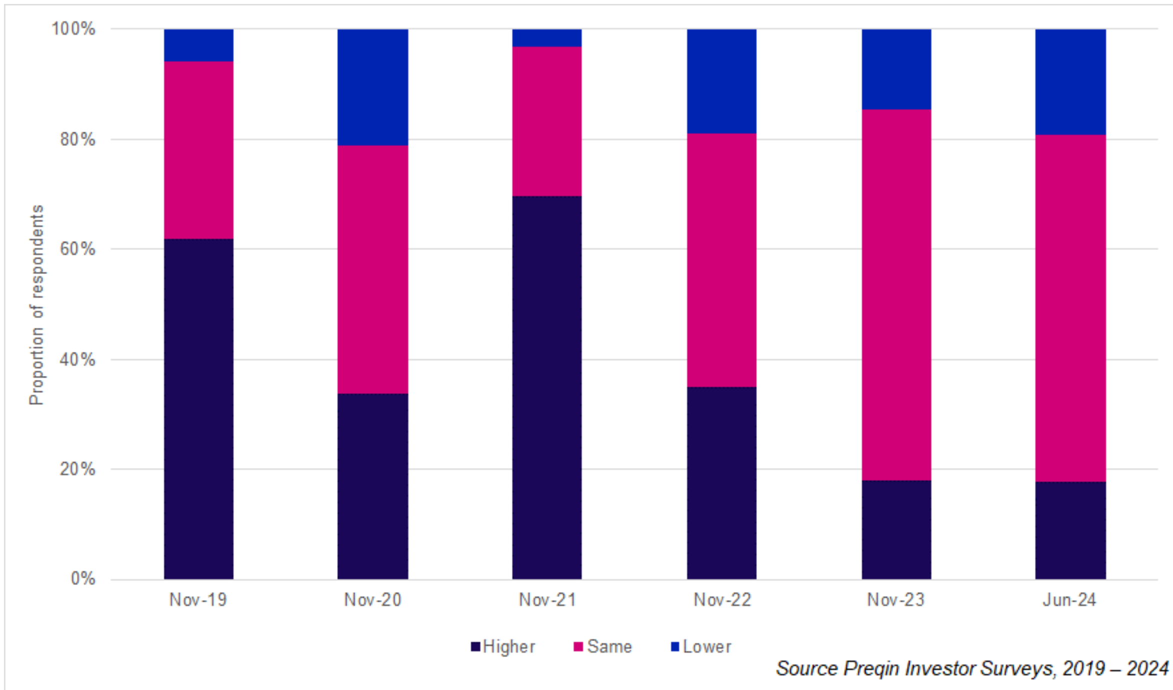
[8] Preqin (2024), Investor Outlook – Alternative Assets – Q1 2024 (April) and Q2 2024 (August).



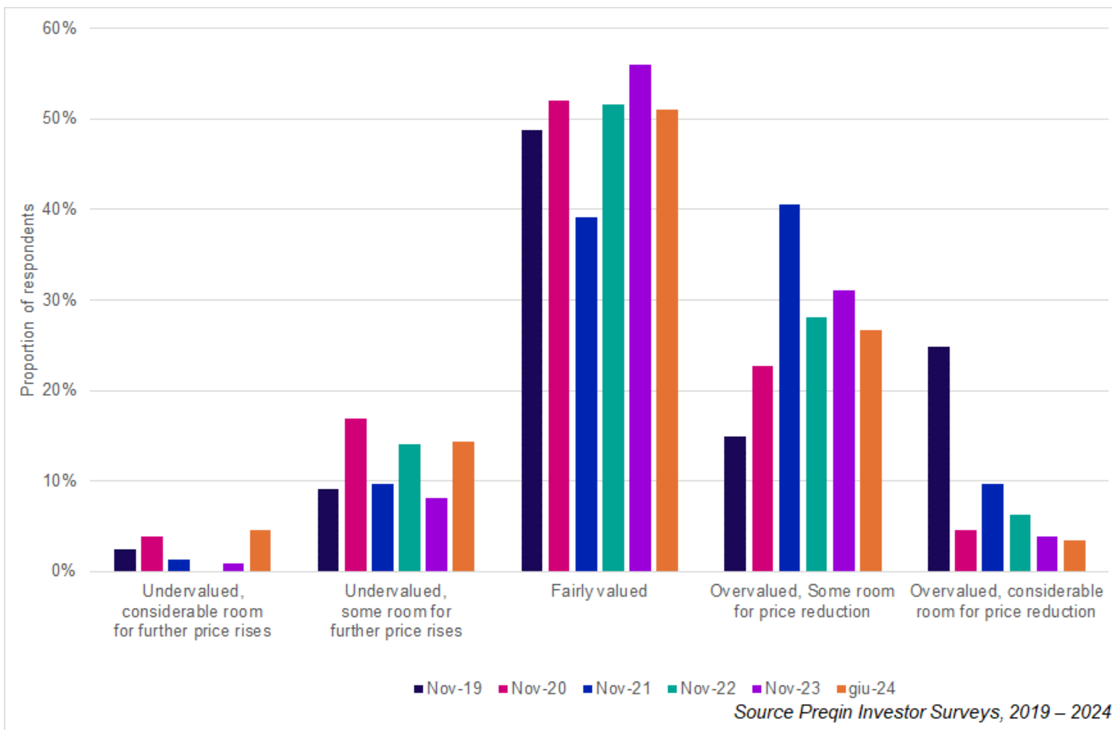
Source Preqin Investor Surveys, November 2019 – 2024

One last point deserving attention is that, as we'll discuss later, private asset valuations stabilized during 2023 together with a more benign attitude of central banks toward monetary tightening. The *"denominator effect"*, which we cited last year as one of the causes of reduced fundraising for the asset class, is fading away. Indeed, 72% of the investors responding to the August 2024 Preqin survey show no or only minor concerns for the *"denominator effect"*. This is because a vast majority of them believe that prices for the assets stabilized in 2023, and 51% of them think that prices are now at a fair level (in line with 52% in November 2023).

How has portfolio company/asset pricing changed on 12 months ago?' 2019 – 2024



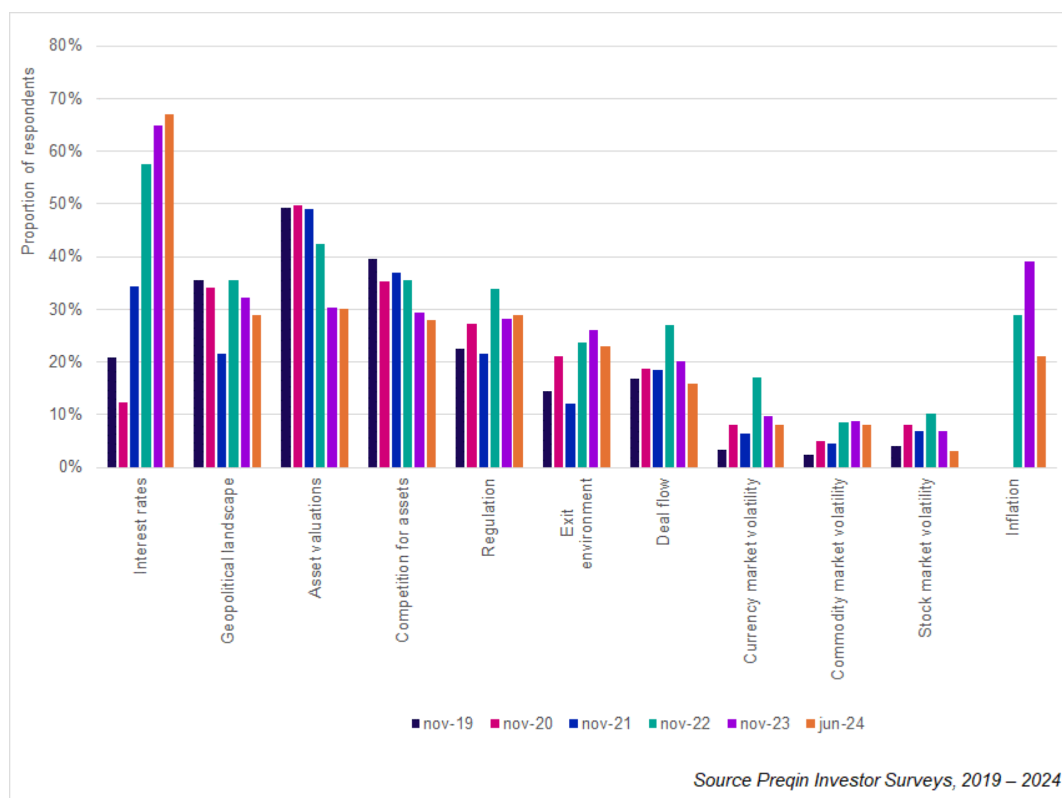
Perception of investors in terms of level of fairness of current prices of infrastructure assets 2019-2024



The sentiment of investors pointing to a price stabilization demonstrates why asset valuations are considered one of the key concerns for the year to come by only 30% of investors (down from

42% in November 2022 and 36% in June 2023). Instead, uncertainty around value and interest rate trends still weigh on the portfolio allocation (67%, up from 58% in November 2022 and 55% in June 2023) together with the possible consequences on a favourable exit environment (23% of respondents).

Key challenges for return generation in the next 12 months



Source Preqin Investor Surveys, 2019 – 2024

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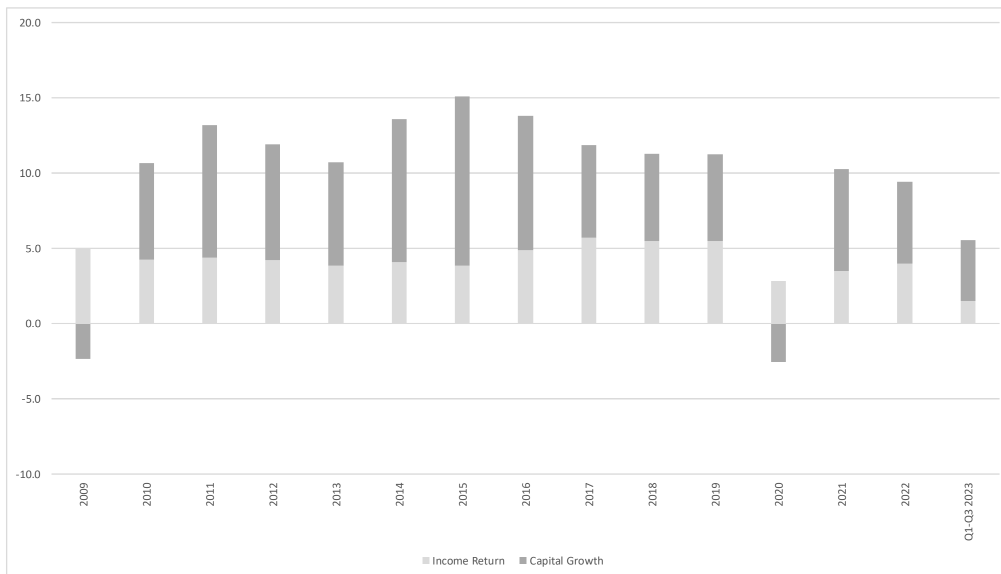
Overall, then, both the historical performance and the outlook for infrastructure investments are still positive. However, investors and asset managers must also consider the challenges ahead.

A look at the trend of returns of the MSCI Global Quarterly Private Infrastructure Index (gross return in local currency) tells us that 1) the performance of the asset class has been fairly stable across all the period 2009-Q3 2023 and 2) returns have been increasingly dominated

by the capital gain component. The latter effect is clearly due to a progressive shift of investor appetite towards core+ and value added/opportunistic segments, where capital appreciation is the key factor for value creation.[9]

Infrastructure performance (gross total return %, local currency)



SOURCE: MSCI Global Quarterly Private Infrastructure Index, Author's elaboration

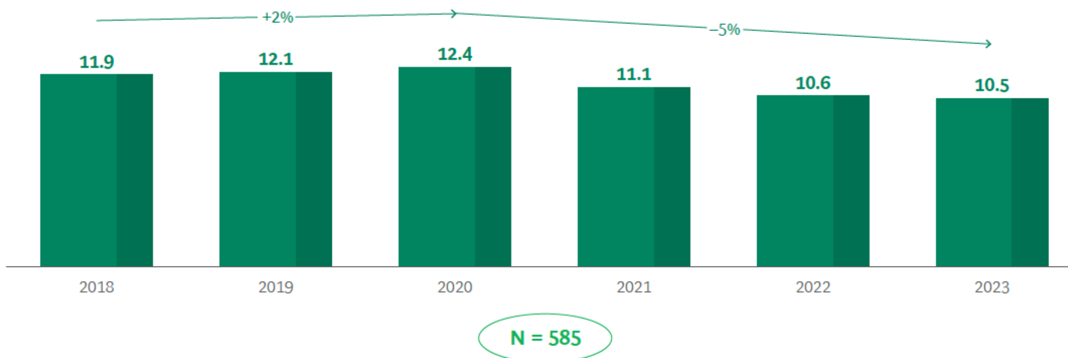
Now, of the three levers of value creation for a private equity investment, the first – deleverage – is going to count less and less due to high interest rates and macroeconomic headwinds. The second – multiples arbitrage – is again challenged by a still unpredictable interest rate trend. Indeed, EV/EBITDA multiples have constantly fallen from 11.9x in 2018 to 10.5x in 2023 as demonstrated by a recent paper by BCG published in Spring 2024.[10]

[9] See UBS (2024), *Infrastructure Outlook 2024*; CBRE (2024) *Global Next-Generation Infrastructure: A Core Plus Strategy for the Mid-Market* and Preqin (2024), Investor Outlook – Alternative Assets – Q1 2024 (April) and Q2 2024 (August).

[10] Boston Consulting Group (2024), *Creating value through Operational Excellence.*

Exhibit 16 - After Peaking in 2020, Multiples Have Decreased Considerably

EV/EBITDA, 2018–2023



Sources: Scientific Infra and Private Assets; BCG analysis.

Note: EV/EBITDA = Enterprise value/Earnings before interest, taxes, depreciation, and amortization.

The only source of value creation that remains available is EBITDA growth through operational improvements. But still, evidence emerging from the BCG report indicates that on a sample of 585 private infrastructure transactions carried out between 2018 and 2023, the annualized total shareholders' return of 6.8% can be attributed to operational improvements only for a modest 1.8%. Most of the value creation was attributable to deleverage strategies (+6.5%).

To sum up, what do these numbers suggest to us?

Future leaders in the market of infrastructure asset management will have to do several things:

Number 1: They'll have to implement an active management, industrial/operational oriented approach in investee firms.

Number 2: They'll have to give growing attention to Next-Generation infrastructure, where opportunities to capitalize on growth, development and operational excellence can be maximized.

Number 3: Linked to the previous point and clearly demonstrated by the two research papers that are going to be presented today, they'll have to shift from a "sectorial" approach in the investment selection to a "thematic" one, so as to able to exploit all the potential synergies spreading from investments belonging to a common "ecosystem".[11]

Number 4: They'll have to dedicate more attention to the mid-market segment, where competition for assets is less severe and relationships count more than competitive processes typical of larger assets.[12]

Reaching all four objectives simultaneously and quickly is clearly not easy, but it becomes imperative in an investment environment that is going to get tougher and tougher in the next few years.

* * *

Let me just conclude this introductory speech by acknowledging the support and contribution of all the people who worked on the Antin IP-Bocconi partnership this year.

The first acknowledgment goes to Angelika Schoechlin, Antin IP senior partner for her opening speech today. Angelika is now taking a high-level role, behind the curtain, in the partnership. But still, she has been an invaluable partner in guiding the direction of our research activity and in defining the scope of work for the Observatory and the Case Collection series. Angelika, really, thank you very much.

[11] See Gatti S. & Chiarella C. (2020), The future of infrastructure investing, in Gatti, S. & Chiarella, C. (editors), *Disruption in the Infrastructure Sector*, Springer Nature, Cham.

[12] The segment of larger transactions is going to become increasingly challenging for asset managers due to a progressive concentration of the market. The September 2023 €1.1-billion acquisition of DIF by CVC and the January 2024 $12.5-billion acquisition of GIP by Blackrock are two mega deals that are likely to pave the way to a string of similar acquisitions in the infrastructure private equity environment. Larger asset managers, larger fundraising rounds and larger deal values are all factors that reduce the margin of error when choosing where to deploy money in infrastructure investment opportunities.

Another well-earned acknowledgment goes to Antin's Nathalie Kosciusko-Morizet, Pietro Roulph, Senior Partner and Investment Director respectively and Luca Mazzolatti. Not only did Nathalie, Pietro and Luca accompany the Bocconi research team during last year's activities, they also provided constant feedback, stimuli and constructive criticism on all the research output. This constant sharing of ideas contributed to enhance the quality of the papers and make them useful also for practitioners, well beyond academic circles.

Third, let me thank the Bocconi Team, which this year was particularly numerous: Oliviero Baccelli and Juan Montero with Matteo Di Castelnuovo and Daniela Valovicova (for the two research papers); Carlo Chiarella, Carlo Favero, Malika Makhmutkhazhieva for preparing the third issue of the Observatory on Infrastructure Asset Pricing; and, again, Carlo Chiarella and Francesco Ceprano for working on the Hippocrates case study.

Lastly, a final thank you to Bocconi President Professor Sironi, Bocconi Rector Professor Billari and Bocconi CEO, Dr. Taranto, for their opening and closing remarks, a constant and very much welcomed presence during this annual event.

Thank you very much.