

**UNIVERSITY
OF HELSINKI**
Investments
report
2023

Written by Anders G. Ekholm
(without generative AI)



UNIVERSITY OF HELSINKI

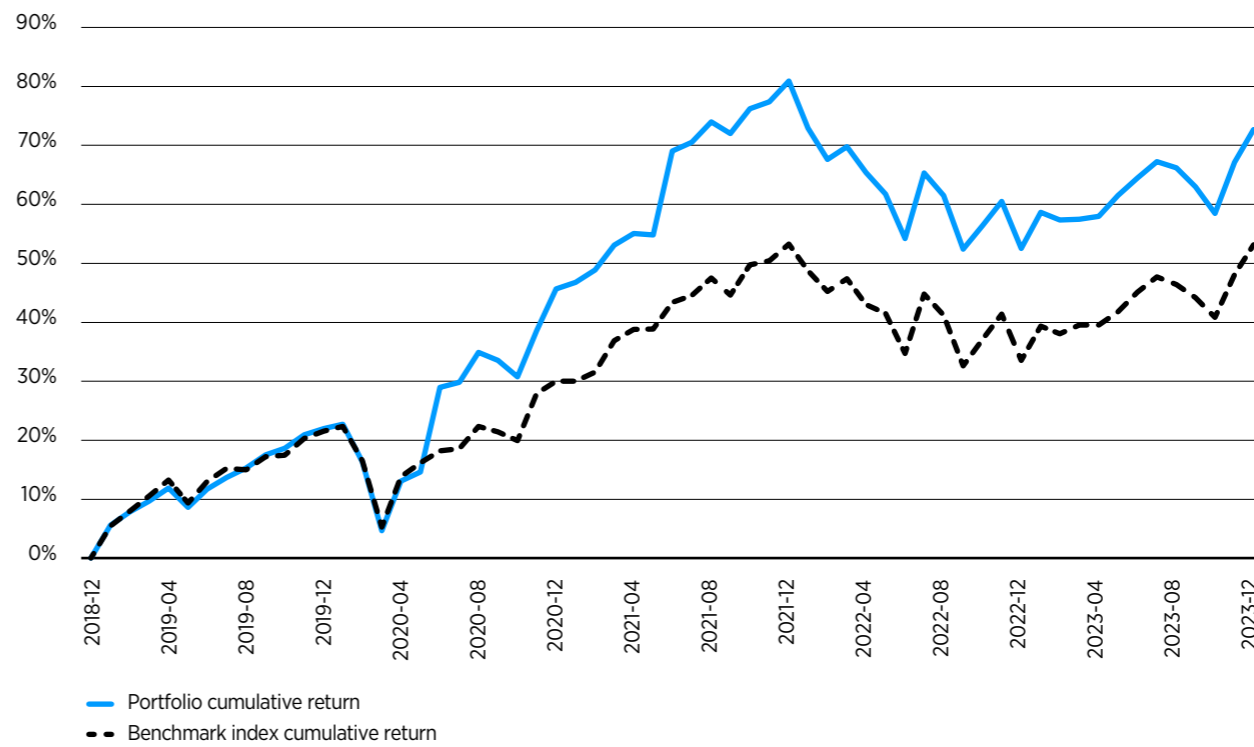


Our financial investments returned 13.5 percent in 2023.¹ The return was primarily driven by a 16.7 percent return for listed equities, secondarily a 5.0 percent return for listed bonds, and tertiarily a 13.9 percent return for other investments. The listed stock return was boosted by a 19.8 percent return for global equity ESG index funds but weighted by a -35.8 percent return for individual stock investments. Our equity investments' TCFD Carbon Footprint, Carbon Intensity, and Weighted Carbon Intensity metrics were approximately half of their benchmark index.²

Our financial investments amounted to 672 million euros as of year-end 2023. They consisted of 71.3 percent listed equities, 21.8 percent listed bonds, 4.2 percent unlisted investments, and 2.7 percent cash. Listed equities comprised of 69.1 percentage-points equity funds and 2.1 percentage-points individual equities. Listed bonds included 13.5 percentage-points government bond funds and 8.3 percentage-points corporate bond funds. Finally, unlisted investments composed of 3.8 percentage-points spinouts, 0.0 percentage-points startups (their market value was merely 129 959 euros), 0.2 percentage-points investment funds, and 0.1 percentage-points other investments.

Over ninety percent of our financial investments were priced daily on public markets and had excellent liquidity. Under normal circumstances, we would be able to convert them into cash – at their fair value – within only a few weeks.

Portfolio and benchmark cumulative returns



¹ "JAY Monthly report University of Helsinki - Investment assets 31 December 2023", https://www.helsinki.fi/assets/drupal/2024-01/Helsingin%20yliopiston%20sijoitusomaisuus%2031-12-2023_ENG_final.pdf

² "University of Helsinki ESG analysis SEB Portfolio Construction December 2023", non-public report.

Performance evaluation

Our global seventy percent stocks plus thirty percent bonds benchmark index yielded 14.1 percent in 2023, which corresponds to a 0.7 percentage-points higher return than for our investments. The equity constituent MSCI ACWI Net Total Return EUR Index returned 18.1 percent, meaning that our equity investment funds returned 1.7 percentage-points more, while our individual stocks lagged it by 53.8 percentage-points. The bond constituent Bloomberg Barclays Global Aggregate Float Adjusted TR Index Hedged EUR yielded 4.9 percent, which corresponds to a 0.1 percentage-points lower return than for our bond investment funds.

Our time-weighted average return has been 11.6 percent per annum during the five years that have passed since we implemented our current investment policy in the beginning of 2019. The equivalent for our benchmark index is 8.8 percent per annum. This translates into a 2.8 percentage-points per annum higher return for our financial investments than for their benchmark index. This return difference is obviously not per se evidence of success, as it is neither controlled for risk, nor chance. Fortunately, we have had the scientific tools to do these controls since the 1960's.

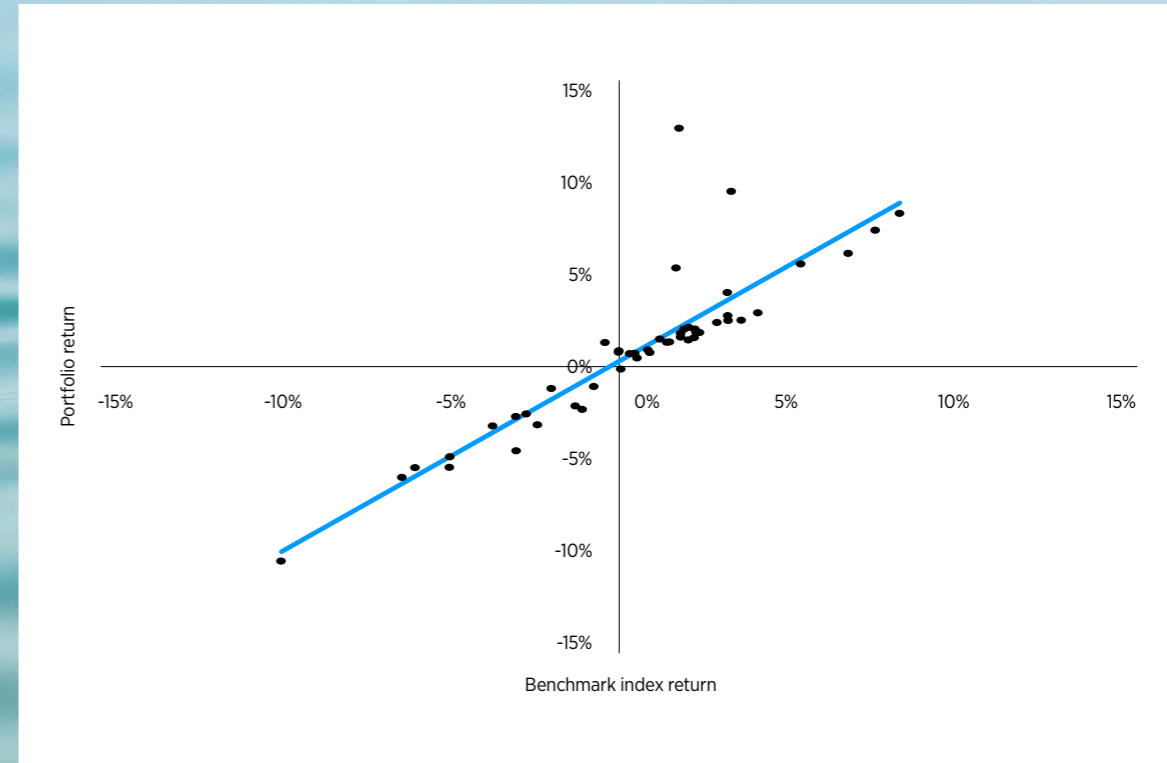
When we analyze our monthly returns since 2019 with the Jensen (1968) methodology, we find that our risk-adjusted excess return – often referred to as α – has been 2.5 percent per annum. The impact of the risk-adjustment suggests that our portfolio has contained slightly more systematic (market) risk – commonly referred to as β – than the benchmark index. This leaves us with an economically significant risk-adjusted outperformance, which however can be a product of both perishable chance as well as

persistent factors. Trying to understand this better is interesting, while we wait for the law of large numbers to pull the ex-post result towards its ex-ante value.

Returns which deviate from the benchmark index's returns can be generated by costs, positions that deviate from the benchmark, and measurement errors (e.g., stale pricing). Costs reduce our α by less than 0.1 percentage-points per annum, as the value weighted average Total Expense Ratio for investment funds is less than that. Hence, α must primarily be driven by positions that deviate from the benchmark – also known as active risk – or/and measurement errors.

We can quantify our non-systematic risk by calculating the standard deviation of the Jensen (1968) model residuals, commonly referred to as Tracking Error, which equals 6.0 percent per annum.³ To add some proportions, we can transform it into $1-R^2$, which expresses the fraction of portfolio excess (of risk-free) return variance that is not explained by β . It turns out that β , or systematic risk, accounts for approximately four fifths of our portfolio return variance, while one fifth cannot be explained by it.

At first, this conclusion might strike as surprising, as we mainly invest into globally diversified investment funds with low Total Expense Ratios. “Mainly” is the key word here. Even though we have allocated mostly into these funds, which by default contain low active risk and contribute with little Tracking Error, the remaining investments contain extremely high doses of Tracking Error. Four of our research-based listed companies together constituted only 1.6 percent of our holdings, but each had Tracking Errors exceeding fifty percent



³ In this analysis we use the Jensen (1968) residuals for calculating Tracking Error, but many alternative definitions exist. See e.g., https://en.wikipedia.org/wiki/Tracking_error

per annum (!) vis-à-vis the equity benchmark index in 2023. Furthermore, our unlisted investments generally display stale returns that are practically uncorrelated with the benchmark index, and hence largely express measurement errors.⁴

The probability of our α turns out to be 37.7 percent, which is clearly statistically insignificant. Hence, according to scientific criteria, we cannot ex-post reject the hypothesis that α actually (ex-ante) was zero. However, we note that a sixty-month return sample is of moderate size – and only time will tell if the value of α or its probability will converge towards zero in the long run.⁵

Another way to evaluate the effects of Tracking Error ex-post, is to calculate a return-to-risk ratio, more explicitly the Sharpe (1966) ratio.⁶ It equals 0.74 for our portfolio and 0.62 for its benchmark index. Hence, our financial investments have ex-post displayed a higher risk-adjusted return than their benchmark index, which might suggest that our active positions have contributed with more return than risk.

To understand this better, we calculate a return-to-risk ratio for (only) the return deviations from the benchmark index – commonly referred to as the Information Ratio.⁷ It equals 0.42 and is hence clearly lower than the Sharpe (1966) ratio for our benchmark index. While it might seem contradictory at first that these return deviations with a lower than benchmark return-to-risk ratio could lift the efficiency of our portfolio over the benchmark, it is easily explained by the 0.00 correlation.⁸ The diversification benefits of our Tracking Error has hence outweighed its lower per se return-to-risk efficiency.⁹

In summary, we have mixed approximately nine tenths of global diversification with one tenth of highly focused bets into our investment cocktail. It seems to have served us well enough so far, but a reasonable question is obviously why we have ended up with these seemingly opposite investment approaches.

⁴ See, e.g. "ERRORS OR EFFORTS?", "University of Helsinki Investments report 2021", https://www.helsinki.fi/assets/drupal/2022-04/HY_INVESTMENTS_REPORT_2021.pdf

⁵ See, e.g. "WHAT IS LUCK?", "University of Helsinki Investments report 2021".

⁶ https://en.wikipedia.org/wiki/Sharpe_ratio

⁷ Conceptually, we can view our portfolio as a combination of the β -adjusted benchmark index and a long/short equity portfolio. The benchmark part of the portfolio has a return and volatility described by β (times the benchmark's equivalents), while the long/short equity portfolio has a α as return equivalent and Tracking Error as volatility equivalent.

⁸ The expected value for the correlation between market benchmark returns and Jensen (1968) residuals is zero, by design.

⁹ https://en.wikipedia.org/wiki/Modern_portfolio_theory



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A tribute to Charlie Munger

The late investment polymath Charlie Munger had a wonderful capacity to encapsulate complex insights into simple statements, such as:

”Take a simple idea and take it seriously.”¹⁰

This advice is as hard to implement in practice, as it seems simple on paper. We are constantly bombarded with information regarding investment products and strategies. As the seller’s fee equals the buyer’s cost, much of the information naturally reflects this intrinsic conflict of interest. Hence, we must decide our course and find a way to tie us to the mast like Odysseus, to be able to listen to tempting songs without jumping overboard.¹¹

When we formulated our new investment strategy in 2018, we tried to gather some central findings from academic financial research, which would commit to implement. Our 2019 investments report encapsulated three of them, as follows:¹²

”Financial theory shows that costs are one of the best predictors of future returns.”

”Diversification is another method promoted by financial theory for improving the performance of investment activities.”

”The success of active investing hinges on valuable knowledge not available to all investors.”

Without too much repetition, we have made serious attempts to execute these ideas. An average Total Expense Ratio below 0.1 percent is extremely cost efficient. Allocating more than ninety percent into global investments funds represents text-book diversification. Our active risks have been focused to research-based spinouts linked to the University of Helsinki, where we should have natural information advantages, as well as positive (ESG) externalities.

While it might sound rhetorical at first, it is just as important to reflect on what we have refrained from doing – and why. Again, in the words of Charlie Munger:

”A lot of success in life and business comes from knowing what you want to avoid...”

Whereas risk is uncertainty for which we can calculate expected characteristics – such as mean and dispersion – and thereby in theory price and manage, other uncertainty is essentially represented by (known and unknown) unknowns.¹³ Consequently, as one of our objectives is to maximize our ex-ante risk-adjusted return, we want to mostly avoid other kinds of uncertainty than risk. For instance, liquidity is often referred to as risk, but really shows more characteristics typical for uncertainty.

We have therefore passed on lately very trendy alternative investment funds for illiquid/unlisted assets, such as private equity, private debt, and infrastructure funds. This decision has not only been

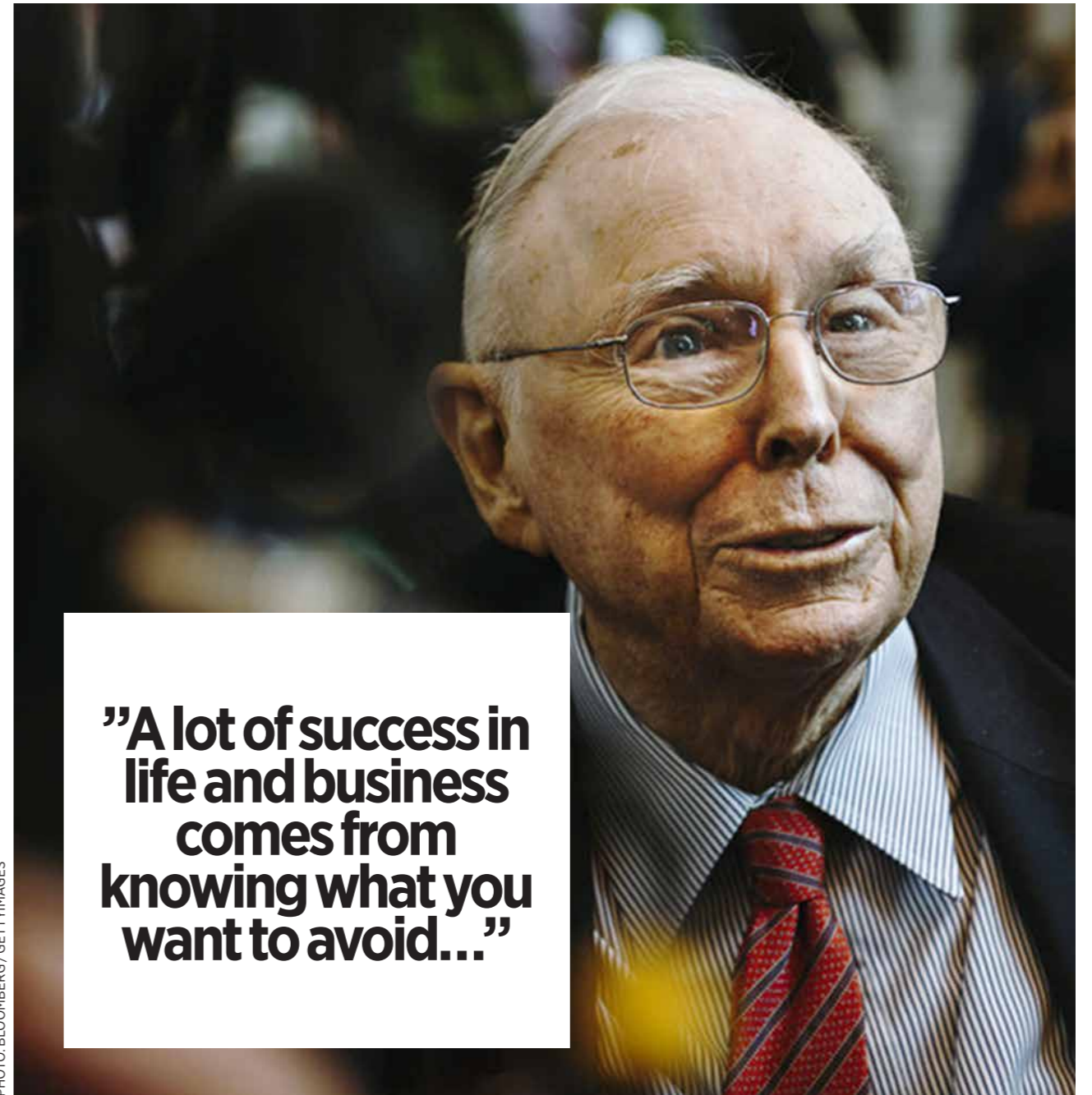
¹⁰ <https://www.ft.com/content/dbb1dbf4-9f2d-4305-a735-bc6f1424593b>

¹¹ <https://en.wikipedia.org/wiki/Odyssey>

¹² “University of Helsinki Annual Report on Responsible Investments in 2019”, https://www.helsinki.fi/assets/drupal/2021-03/annual_report_on_responsible_investments_in_2019.pdf

¹³ “Liquidity, Pricing Efficiency and Counterparties” and “Unknown Uncertainties”, “University of Helsinki Investments report 2022”, https://www.helsinki.fi/assets/drupal/2023-04/INVESTMENTS_REPORT_2022_UNIVERSITY%20OF%20HELSINKI.pdf

PHOTO: BLOOMBERG/GETTYIMAGES




”A lot of success in life and business comes from knowing what you want to avoid...”

driven by fear of uncertainty, but also by the fact that costs seem to have burdened their performance excessively.¹⁴ Similar concerns about the benefits to long-term investors, like university endowments, have kept us away from hedge funds and other alternative investment funds.^{15 16}

Trying to predict and benefit from short-term market movements, is one more thing that we have not attempted. More than half a century worth of academic research has not convincingly documented that even professional investors would have been able to change systematic risk(s) with an accuracy that would – in the long run – have yielded a positive contribution to risk-adjusted returns, after associated trading costs and frictions.¹⁷

Not trying to forecast, what cannot reliably be forecasted, is perhaps the most challenging one of our don'ts. Forecasting is a fundamental human urge that can provide psychological comfort, as well as political benefits. It isn't easily deterred – even by hard evidence. The anecdote about late Nobel Memorial Prize in Economic Sciences winner Kenneth Arrow during his service in World War II encapsulates this all too well. He was a weather forecaster for the USAF and realized that their (then) long-term weather forecasts were effectively worthless. When Arrow reported his findings and recommended the discontinuation of the bogus forecasts, he got the following reply:¹⁸

“The Commanding General is well aware that the forecasts are no good. However, he needs them for planning purposes.”



Not trying to forecast, what cannot reliably be forecasted, is perhaps the most challenging one of our don'ts.

¹⁴ <https://www.pm-research.com/content/ijinvest/30/1/11>

¹⁵ <https://www.pm-research.com/content/ijinvest/30/3/6>

¹⁶ We do believe that alternative investment funds can serve some investors well, if they can benefit from (measurable) volatility reduction caused by stale prices, or/and have sufficient information advantages over other investors allowing them to choose better than average funds.

¹⁷ <https://users.business.uconn.edu/jgolec/Treynor-Mazuy.pdf>

¹⁸ <https://medium.com/@jonrhodes1000/against-the-gods-the-remarkable-story-of-risk-by-peter-l-bernstein-b5138e1e086f>

To be, or not to be, ESG?

In our 2019 investments report, we also stated a simple (but back then seemingly challenging) idea with regards to mitigating climate change:

“This is why responsibility entails especially the goal of divesting from investments in companies that produce fossil fuels.”

We ceased owning fossil fuel producing companies already in 2020. Largely because of this, our equity investments’ TCFD Carbon Footprint metric was 46.8 percent lower (50 tons CO₂-eq per million EUR invested) than for their benchmark index as of December 2023.¹⁹ Congruently, their TCFD Carbon Intensity was 60.6 percent (65 tons CO₂-eq per million EUR revenue) lesser, and their TCFD Weighted Carbon Intensity 50.2 percent smaller (65 tons CO₂-eq per million EUR revenue).

As another positive effect of divesting from fossil fuel producers, as well as other sustainability criteria applied by our investment managers, our equity investments’ Water Consumption metric was 66.0 percent and Waste Production 28.7 percent lower than for their benchmark index. Taken together, we believe that these metrics indicate that our financial performance has not come at an excessive environmental cost.

In our 2020 investments report, we explicitly added carbon emissions to our objectives:²⁰

“... aim for a carbon neutral portfolio by the year 2030...”

This target is in line with that of the University of Helsinki itself, which in 2023 published its roadmap to becoming carbon neutral by 2030.²¹ Much like for the university, it seems probable that reducing our financial investments’ (gross) carbon emissions to zero will simply not be feasible by 2030, given our fiduciary requirements, and the de-facto structure of the economy. Hence, again in line with the university, we will probably need to compensate for our investments’ carbon emissions to reach (net) neutrality. Currently, the cost of compensating with for instance EU Carbon Permits would impose a notable – but not unbearable – drag on our expected return.²² The looming compensation costs obviously constitute financial incentives to further reduce our investments’ gross carbon emissions.

The waters of ESG metrics can at times be rather murky, as both many inputs and their utility-functions are hard or impossible to define. As a research university, we naturally prefer metrics that can be at least objectively defined, if not measured. However, allowing for a more qualitative approach, our equity investments had an approximately eight percentage-points higher exposure than their benchmark index to themes labelled as positive: circular economy, digitization, education & publishing, entertainment, health tech & pharma, infrastructure & real estate, renewable energy, sports & wellness, and sustainable food. Furthermore, they had a roughly seven percentage-points lower exposure to themes that were classified as negative: alcohol, coal, dirty

energy, gambling, meat food production, plastics, tobacco, unhealthy food – and weapons.²³

The production of conventional weapons is a typical example of the ambiguity of ESG metrics: Recent geopolitical developments have exposed a need for more, not less, production in Europe.²⁴ Obviously, these metrics must be subject to ongoing evaluation and debate, in the spirit summarized by German philosopher Johann Fichte as “thesis–antithesis–synthesis”, to account for their contextual nature.²⁵

Our 2019 investments report laid out one more simple idea, which was crystal clear:

“Even if we fail to generate alpha returns through our non-listed companies as described above, we will still have a positive impact by enabling innovations made at the University of Helsinki to benefit society.”

We have doubled down on spinouts and startups associated with the University of Helsinki. While it is still too early to draw reliable conclusions regarding the financial success of these investments – even after one IPO and one significant trade sale – the other benefits to the university and society at large appear clear. The list of these investments already fills more than one full page in our monthly portfolio report and constitutes a “University of Helsinki Venture Portfolio”. We are increasingly confident that it is a valuable source of incentives, impact, and future financial returns from and for the university.

Taken together, we believe that these metrics indicate that our financial performance has not come at an excessive environmental cost.

Finally, our 2019 investments report expressed the simple but powerful idea of the Principle of Public Access to Official Records:²⁶

“Our investment activities must be sufficiently transparent to the donors and taxpayers that fund the University, which makes implementing the principle of public access an important part of our responsibility.”

We have published e.g., our returns, characteristics, holdings, and this report annually since then, and believe that our transparency stands well in comparison.

¹⁹ <https://www.tcfhub.org/Downloads/pdfs/E09%20-%20Carbon%20footprinting%20-%20metrics.pdf>

²⁰ “University of Helsinki Investments report 2020”, https://www.helsinki.fi/assets/drupal/2021-03/HY_INVESTMENTS_REPORT_2020_ENG_010321.pdf

²¹ “Carbon Neutral University of Helsinki by 2030 Roadmap”, https://www.helsinki.fi/assets/drupal/2023-05/HY_Tiekartta_taustapaperi_EN.pdf

²² <https://tradingeconomics.com/commodity/carbon>

²³ “University of Helsinki ESG analysis SEB Portfolio Construction December 2023”, non-public report.

²⁴ <https://www.europarl.europa.eu/news/en/headlines/security/20230504STO84701/reinforcing-european-defence-buying-weapons-together>

²⁵ https://en.wikipedia.org/wiki/Johann_Gottlieb_Fichte

²⁶ https://en.wikipedia.org/wiki/Principle_of_public_access_to_official_records

Back to the future

Short term – during the next five years or so – we might witness the painful end of an economic, debt and liquidity cycle. Some of us might chirp “this time is different!”²⁷ Others already believe that they can see the tide going out, to quote Warren Buffet:²⁸

“Only when the tide goes out do you learn who has been swimming naked.”

In the long run, the “perennial gale of Creative Destruction” – popularized by the Austrian economist Joseph Schumpeter – will furthermore continue wreaking havoc.²⁹ New companies emerge, usually propelled by innovations that give them (temporary) competitive advantages, while old ones become obsolete. Anecdotally, our 2022 investments report noted that a specific novel technology seemed to be approaching us more like a hurricane, than a gale:

“Automation challenges white-collar work, one of the few remaining professional bastions of human beings.”

Looking back, 2023 seems like the year that Hurricane AI hit land.³⁰ Prominent scientists even warned about the risk of extinction.³¹ The future (r)evolution of artificial intelligence and other new technologies is however highly uncertain. Only afterwards will we know which companies succeeded, and which perished. This might be hard

to express better than through the 1999 quote of Amazon founder Jeff Bezos:³²

“We still have the opportunity to be a footnote in the e-commerce industry.”

When all is said and done, we intend to remain firmly tied to our metaphorical mast, and focus on the horizon. By diversifying globally into shares in thousands of companies, we do not really need to guess which technologies will succeed, and which will perish. The odds are reasonably good that we already own fractions of many companies that will succeed in the future. As they grow larger, due to their increased competitiveness, their stock index weights and our allocation to them goes up – and vice versa for the more unfortunate ones. With this we proact, to react efficiently to known and unknown unknowns.

By furthermore making focused investments into companies powered by intellectual property and human resources associated with the University of Helsinki, we seek to leverage our financial capital to better serve the university’s mission, and society at large.³³ This responsibility and opportunity might be accentuated by a funding drought: Global venture investments declined 38 percent year-over-year in 2023 and fell to their lowest level since 2018.³⁴ Our long investment horizon, combined with our excellent solidity and liquidity positions, will hopefully offer extraordinary value in this challenging environment.

These are our ideas. Simply – but seriously.

²⁷ https://www.nber.org/system/files/working_papers/w13882/w13882.pdf

²⁸ <https://fortune.com/2022/10/03/warren-buffett-famous-quotes-swimming-naked-interest-rates-debt-zombies/>

²⁹ https://en.wikipedia.org/wiki/Creative_destruction

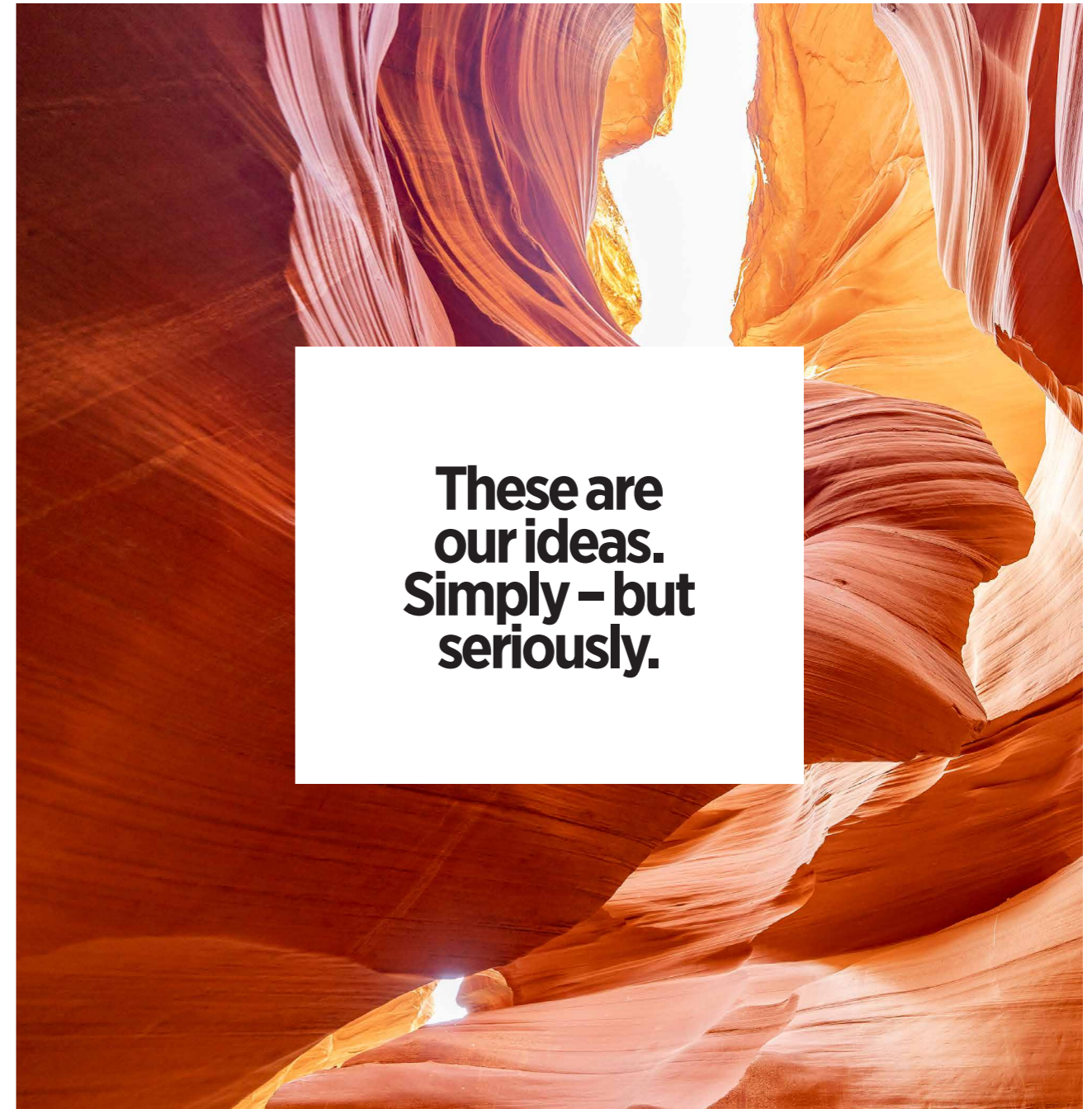
³⁰ <https://www.cnbc.com/2023/12/16/ai-job-losses-are-rising-but-the-numbers-dont-tell-the-full-story.html>

³¹ <https://www.safe.ai/statement-on-ai-risk>

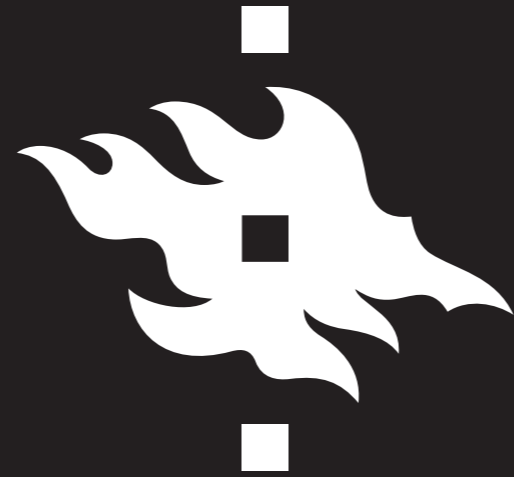
³² https://money.cnn.com/magazines/fortune/fortune_archive/1999/11/22/269066/index.htm

³³ <https://www.helsinki.fi/en/about-us/strategy-economy-and-quality/strategic-plan-2021-2030>

³⁴ <https://news.crunchbase.com/venture/global-funding-data-analysis-ai-eoy-2023/>



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