

Third Quarter 2021 Update

October 11th, 2021

The NZS Capital Growth Equity strategy had a gross return of 0.71% (.54% net) in the third quarter of 2021 compared to its global market index benchmark, which was down 1.01%. Year to date, the strategy has returned 15.78% (15.22% net) compared to the benchmark's 11.20%. The NZS Capital Select strategy declined 0.32% gross (-.5% net) in the third quarter of 2021 and rose 19.34% (18.76% net) year to date.

Q3 2021Through September 30, 2021

NZS Capital, LLC	NZS Growth Equity				NZS Select			
	Q3 2021	YTD	LTM	SI *	Q3 2021	YTD	LTM	SI *
Gross Strategy Return	0.71%	15.78%	42.89%	44.01%	-0.32%	19.34%	45.67%	48.34%
Net of Fees	0.54%	15.22%	41.97%	43.07%	-0.50%	18.76%	44.74%	47.37%
Index Return**	-1.01%	11.20%	27.60%	15.56%	-1.01%	11.20%	27.60%	15.56%

^{*} Inception for Growth Equity and Select is 12/31/19; performance greater than 1 year is annualized.

The research process at NZS Capital is always guided by the unpredictability of the world around us. Our lens on the world, which does not rely on narrow predictions of the future, is ideally suited for long-term investors as the global economy transitions from analog to digital. We believe companies that maximize non-zero-sum outcomes for all of their constituents, including employees, customers, suppliers, society, and the environment, will also maximize long-term outcomes for investors. These adaptable businesses will take share as the economy continues its decades long transition from analog to digital, sector by sector. Our view of the world informs our portfolio construction process, which combines a relatively small number of Resilient companies (larger positions) with a long tail of Optionality companies (smaller positions). Resilient businesses have very few predictions underpinning their success and a narrow range of outcomes, while Optionality businesses have a wider range of outcomes and their success hinges upon a more specific view of the future playing out. This combination of long-duration growth and asymmetric upside is well suited to navigating the increasing pace of change throughout the global economy.

Performance Discussion

The following third quarter 2021 performance discussion references the NZS Growth Equity strategy. Information technology remained our largest weighting at 56.45%. Our technology investments were up 1.97%, ahead of the benchmark technology component, up 0.58%. Among the top contributors in the period were Ball Corp, Salesforce.com, Cadence Design Systems, Microsoft, ASML, Adyen, Sun Communities, and Chipotle. Our relative underexposure to financials and energy weighed on overall performance during this period of rising rates and inflationary signals. Specific detractors from performance in the period included Lam Research, ViacomCBS, T-Mobile, Crown Castle, SailPoint, TSMC, Peloton, and Nexon.

^{**} Morningstar Global Target Market Exposure NR USD.

The third quarter was emblematic of the global market's recent roller coaster ride. Following a strong rally to the top of the hill, stocks soon descended the diving turn of worry. There might have even been a loop-de-loop in there somewhere. Sometimes, the weather does not cooperate. Late in the third quarter, there was a confluence of seemingly unrelated events that fueled inflation concerns. China's factories were running strong in an effort to catch up with the post-pandemic surge in global demand for goods. Their energy usage was high, but a dry season across much of China resulted in lower-than-anticipated hydroelectric power supply, while the country's price-controlled energy sector disincentivized electricity generation. And, looking west to Europe, a dampening of prevailing winds stalled wind turbines, and low rainfall reduced hydroelectric energy. As a result, natural gas prices spiked to multi-year highs, fueling inflation fears.

It's not just the weather that is hard to predict. The world is a mind-bogglingly complex system, which is (though we may pretend otherwise) entirely unpredictable. Indeed, unpredictability is the only predictable thing. That's why our primary focus at NZS Capital is on building portfolios that balance Resilient and Optional businesses with an emphasis on adaptability and non-zero sumness, i.e., businesses that create more value for the world than they take for themselves. Despite the inclement weather of late, the long-term forecast remains the same: the digital transformation of the economy will continue to accelerate, and we will continue to invest in the companies that stand to benefit from this decades long opportunity. We like it when the market weather is unpredictable – volatility is not risk, it's opportunity.

The "Al" Age and the Ongoing Digital Transformation

The following has been adapted from SITALWeek #316: Back in the late 1990s, every business was either appending ".com" to their existing name or touting their dotcom strategy and how it was going to transform them or their industry. A lot of hyped-up ideas ended up being right, just twenty years too early. But, for the many legacy companies that put on dotcom lipstick at the turn of the century, the Internet was ultimately a negative disruption of their business. For some industries, such as media and retail, we've seen the near completion of the disruptive, Internet-enabled transformation. For more highly regulated businesses, such as the banking and healthcare sectors, which have successfully lobbied to keep disruption at bay, it's unknown if/how they will ultimately be affected by the Internet Age. And, for a large bucket of companies that have harnessed the Internet to improve their products, supply chain, and/or customer interactions without significant disruption to their business model, dotcomization has been more subtle. For all industries, the Internet enabled an accelerated pace of change, and dotcom simply became shorthand for digital transformation. The biggest winners of the Information Age have been the new companies – those that were built in the late 1990s and early 2000s by the Internet and for the Internet. These are the familiar mega platforms of today, all of which are facing a global wave of regulatory pushback that is handicapping their ability to enter new markets or even innovate in some of their existing markets.

We find ourselves presently in another technological jargon bubble: Al. For most established companies today, Al of course is no more real than dotcom was twenty years ago for the 1900s Industrial Age companies. Al has become a metaphor for digital transformation in exactly the same way the dotcom label evolved. For most of today's companies, Al will be a negative disruption – an acceleration of the digital transition that will bury the legacy incumbents and create new winners. And, Al, just like dotcom before it, will be enabled by software and semiconductors, the enduring engines of the analog-to-digital transformation of the global economy. It's possible that the emergent dotcom winners of the last twenty years will power the new Al wave of innovation and transformation. Perhaps today's mega platforms will



maintain power, but that's up in the air with regulation and the challenges any incumbent faces when a new market emerges. And, there will be new companies that will dwarf anything we've seen in the last two decades. Al also has a mega investment bubble associated with it. So far, this bubble has stayed more in private markets, while the dotcom bubble manifested a little faster in the public markets of the late 1990s.

There is one big difference with AI as the new marketing term for digital transformation compared to dotcom: the world seems to be willing to believe AI is real, but it's not. At least not yet. We are seeing companies hand off decision making to AI as if it were something more elevated than a complicated search algorithm scanning pools of data. It's this dangerous "invisible hand" mentality of AI that has me worried. It's distorting how people are hired and fired, whether people can rent apartments and access government benefits, and how doctors and hospitals treat patients. It's determining who people date, what music they listen to, what shows they watch, and who they interact with. Facebook was designed to collect, amplify, and reflect our own thoughts and emotions back to us in order to sell ads. In and of itself, social media is a dangerous echo chamber, but becomes even more so if we accord its half-baked algorithms any sort of divine power. All of these life changing algorithms have the transparency of mud, and to rage against them is to shout into an infinite abyss. Al is nothing more than a fallible human tool – it's a reflection of human nature, and, lately, we all seem to be acting a little crazy. Along with the increased influence of social media algorithms, we've seen a rise in extremism, hate, misinformation, and violence. There will of course be legitimate artificial intelligence systems and uses that perform incredibly complex tasks and might be able to make short-term predictions and decisions that are useful. But, recently, when I see a company talking about AI, that is clearly not what they mean.

We will have incredible breakthroughs in artificial general intelligence when AI can gather enough context to make <u>analogies</u>, reason, and learn on its own. However, the computational burden of trying to make better decisions through deep learning systems might also hit a breaking point even with these breakthroughs. IEEE reports that halving the error rate in image recognition would require <u>500x</u> the computational power! The world is complex and unpredictable by nature. And, that brings us back to the weather: the amount of energy required just to predict the weather an hour from now, on every square meter of the planet, might just not be worth it compared to looking out the window. Do the complex AI models gulping down massive amounts of energy-intensive compute power take into account their own insatiable appetite when they model global warming!?

The next wave of digital will bring major structural changes to the economy as well with deflationary pressures and job displacements. There will be periods where the short-term negatives seem to be worse than the long-term positives. Yet, I am optimistic about the ongoing, accelerated, digital transformation of the global economy. It will ultimately do a lot of good for people and the planet over the next few decades, but I am a little worried about the blind faith that's being put into what amounts to nothing more than a marketing term. Just like twenty years ago, there is a lot of work to be done; but, decades from now, we will be looking at a completely digital, completely transformed economy, *perhaps* with a little bit of real AI.

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